

Patent Claims:

1. A device for comparing calculations for product components in different product types, the device comprising:
 - an electronic listing (110) of product types,
 - an electronic parts list (120) that is valid for each product type of the listing (110) and includes a breakdown of a product into its components and features of components contained in the parts list (120),
 - an electronic description database (150) having automatically analyzable descriptions for each component occurring in the parts list (120), each component description being valid for at least one product type occurring in the listing (110) and for a component and including characteristics of the features of the component in this product type,
 - an electronic calculation database (160) having calculations referring to a component occurring in the parts list (120) and to a product type occurring in the listing (110),
 - a unit (201.1, 201.2, ...) for selecting at least one component occurring in the parts list (120),
 - a unit for automatically determining all calculations in the calculation database (160) and relating to a selected component and for determining the product types of these calculations,
 - and a unit for generating a comparison of the calculations so determined and the component descriptions in effect for the selected component and for the product types so determined.
2. The device as recited in Claim 1, characterized in that
 - the parts list (120) additionally includes a breakdown of each component into its parts,
 - at least one calculation in the calculation database (160) includes information about the percentage of the part of the component to which the calculation refers in the result of the calculation,
 - and the comparison-generating unit includes means for generating a partial comparison for each part of the selected component,
 - each partial comparison including the percentage of the part in the results of the calculations of the comparison so determined.

3. The device as recited in Claim 2,

characterized in that

- the parts list (120) includes at least one feature for each component,
- a component description in the description database (150) includes the characteristics of the features of the components in the particular product type,
- and the comparison-generating unit includes means for generating a configuration comparison of the characteristics of the features of the parts in the product types thus determined and for inserting the configuration comparison into the comparison of the calculations determined.

4. The device as recited in one of Claims 1 through 3,

characterized in that

- the device includes a unit (220.1, 220.2, ...) for selecting product types occurring in the listing (110),
- and the determination unit includes means for determining all calculations relating to a selected component and a selected product type from the listing (110).

5. The device as recited in one of Claims 1 through 4,

characterized in that

- the calculations relate to costs,
- the device includes an electronic list (130) having cost types of a calculation, the cost type list (130) being valid for all components of the parts list (120) and all product types of the listing (110),
- each calculation includes a partial calculation for each cost type of the cost type list (130),
- and the comparison-generating unit includes means for breaking down a generating comparison into the cost types of the cost type list (130).

6. The device as recited in Claim 5,

characterized in that

- the device has a unit for selecting at least one cost type occurring in the cost type list (130),

- and the comparison-generating unit has means for automatically removing the cost types not selected from the comparison.

7. The device as recited in Claim 5 or Claim 6,

characterized in that the device has

- a unit for selecting a calculation contained in the comparison for each cost type of the cost type list (130),
- and a unit for generating a calculation for a selected component, each with a partial calculation per cost type of the cost type list (130),

the partial calculation for a cost type being equal to the partial calculation of the calculation selected for the cost type.

8. The device as recited in one of Claims 1 through 7,

characterized in that

- the device includes an electronic attribute list having the attributes that are assignable to the calculations and having the possible values of these attributes, the attribute list being valid for all components of the parts list (120) and all product types of the listing (110),
- calculations in the calculation database (160) include attribute-attribute value pairs, each attribute occurring in the attribute list and each attribute value being a possible value of the attribute,
- and the device has a unit for selecting at least one attribute of the attribute list and one possible value of a selected attribute,
- and the device has a unit for automatically determining all calculations including at least one selected attribute-attribute value pair.

9. The device as recited in Claim 8,

characterized in that the attribute list includes at least one of the following attributes:

- a period of time to which the calculation refers,
- a material used to manufacture at least one product component,
- a supplier of at least one product component,
- a manufacturing method used in the manufacture of at least one product component,

- a resource used in the manufacture of at least one product component,
- a region in which at least one product component is manufactured.

10. The device as recited in one of Claims 1 through 9,

characterized in that the device includes

- a unit for generating a calculation using the electronic parts list (120),
- and a unit for saving a calculation in the calculation database (160).

11. A method for comparing calculations for product components in different product types,

characterized in that

- an electronic listing (110) of product types and
- an electronic parts list (120) valid for each product of the product types of the listing (110), including a breakdown of each product into its components and features of components contained in the parts list (120)

are specified,

and the method includes the following steps which are performed using a data processing system:

- saving automatically analyzable descriptions for each component occurring in the parts list (120) in an electronic description database (150), each component description being valid for at least one product type occurring in the listing (110) and including characteristics of the features of the component in this product type,
- saving calculations relating to a component occurring in the parts list (120) and a product type occurring in the listing (110) in an electronic calculation database (160),
- selecting at least one component occurring in the parts list (120),
- determining all calculations relating to the selected component in the electronic calculation database (160),
- determining the component descriptions that are included in the description database (150) and are valid for the selected component and for the product types to which the calculations thus determined refer,
- and generating a comparison of the calculations thus determined and the component descriptions thus determined.

12. The method as recited in Claim 11,
characterized in that

- the calculations refer to costs,
- an electronic list (130) having cost types of a calculation is specified, the cost type list (130) being valid for all components and all product types,
- in generating a calculation, one partial calculation is generated for each cost type of the cost type list (130),
- a calculation for which the results are determined is selected for each cost type of the cost type list (130),
- another calculation for the selected component having a partial calculation per cost type of the cost type list (130) is generated, the partial calculation of the calculation selected for the cost type being used as the partial calculation for a cost type in the future calculation.

13. The method for comparison calculations for product components in different product types,

characterized in that

- an electronic listing (110) of product types,
- an electronic attribute list containing attributes of a calculation and possible values of these attributes, the attribute list being valid for all components and all product types of the listing (110),
- an electronic parts list (120) which is valid for each product of the product types of the listing (110), including a breakdown of a product into its components and features of components included in the parts list (120)

are specified,

and the method includes the following steps which are performed using a data processing system:

- saving automatically analyzable descriptions for each component occurring in the parts list (120) in an electronic description database (150), each component description being valid for at least one product type occurring in the listing (110) and including characteristics of the features of the component in this product type,

- saving calculations relating to a component occurring in the parts list (120) and a product type occurring in the listing (110) and to which attribute-attribute value pairs comprising attributes and attribute values of the attribute list are assigned in an electronic calculation database (160),
- selecting at least one attribute of the attribute list and a possible value of a selected attribute,
- determining all calculations which are saved in the calculation database (160) and to which a selected attribute-attribute value pair is assigned,
- determining the component descriptions that are included in the description database (150) and are valid for the component and for the product types to which the calculations thus determined refer,
- and generating a comparison of the calculations thus determined and the component descriptions thus determined.

14. The method as recited in Claim 13,

characterized in that the attribute list comprising possible attributes of a calculation includes at least one of the following attributes:

- a period of time to which the calculation refers,
- a material used to manufacture at least one product component,
- a supplier of at least one product component,
- a manufacturing method used in the manufacture of at least one product component,
- a resource used in the manufacture of at least one product component,
- a region in which at least one product component is manufactured.

15. A computer program product that is directly loadable into the internal memory of a computer and includes software segments using which a method as recited in one of Claims 11 through 14 is implementable when the product runs on a computer.

16. The computer program product saved on a computer-readable medium and having computer-readable program means causing the computer to execute a method as recited in one of Claims 11 through 14.